Amendment to the Claims

Claims 1 – 29. Canceled

30. (New): A method for producing an end-product comprising the steps of,

a) contacting a cellulose or starch containing substrate and at least one substrate-converting enzyme to produce an intermediate selected from the group of pentoses and hexoses, wherein said substrate-converting enzyme is selected from the group consisting of alpha amylases, glucoamylases, pullulanases and combinations thereof; and

b) contacting said intermediate with an intermediate-converting microbial enzyme, wherein said intermediate is substantially all converted by said intermediate-converting microbial enzyme to said end-product.

31. (New): The method according to Claim 30, wherein the cellulose or starch containing substrate is obtained from corn or wheat plant material.

32. (New): The method according to Claim 30, wherein the glucoamylase is a granular starch hydrolyzing glucoamylase enzyme.

33. (New): The method according to Claim 32, wherein the granular starch hydrolyzing glucoamylase enzyme is derived from a strain of *Humicola* or *Rhizopus*.

34. (New): The method according to Claim 30, wherein the alpha amylase is derived from a bacterial source.

35. (New): The method according to Claim 30, wherein said intermediate-converting microbial enzyme is secreted by a microorganism in contact with said intermediate.

36. (New): The method according to Claim 35, wherein said microorganism is a bacterium.

37. (New): The method according to Claim 30, wherein said intermediate is maintained at a concentration level below that which triggers catabolite repression effects upon the conversion of said intermediate to said end-product.

38. (New): The method according to Claim 30, wherein the intermediate is maintained at a concentration level below that which triggers enzymatic inhibition effects upon the conversion of said intermediate to said end-product.

39. (New): The method according to Claim 30, wherein the presence of said end-product does not inhibit the further production of said end-product.

40. (New): The method according to Claim 30, wherein the presence of the cellulose or starch containing substrate does not inhibit the further production of said end-product.

41. (New): The method of Claim 30, wherein the hexose is glucose.

42. (New): The method of Claim 30, wherein said end-product is selected from the group consisting of 1,3-propanediol, glycerol, succinic acid, lactic acid, 2,5-diketo-D-gluconic acid, gluconate, glucose, alcohol, and ascorbic acid intermediates.

43. (New): A method for producing an end-product comprising the steps of,

a) contacting a cellulose or starch containing substrate and a glucoamylase to produce glucose; and

b) contacting the glucose with at least one intermediate-converting microbial enzyme,

wherein the presence of said end-product does not inhibit the further production of said end-product.

44. (New): The method according to Claim 43, wherein the starch containing substrate is corn or wheat.

45. (New): The method according to Claim 43, wherein the glucoamylase is a granular starch hydrolyzing enzyme.

46. (New): The method according to Claim 43, wherein the intermediate-converting microbial enzyme is secreted by a microorganism in contact with the glucose.

47. (New): The method according to Claim 43, wherein said end-product is selected from the group consisting of 1,3-propanediol, glycerol, succinic acid, lactic acid, 2,5-diketo-D-gluconic acid, gluconate, alcohol, and ascorbic acid intermediates.

48. (New): A method for producing an end-product in a bioreactor from a starch substrate comprising,

a) contacting a granular starch substrate and a granular starch hydrolyzing enzyme in a bioreactor to produce glucose; and

b) contacting the glucose with an intermediate-converting microbial enzyme to obtain an end-product, wherein said end-product is selected from the group consisting of 1,3-propanediol, gluconic acid, glycerol, succinic acid, lactic acid, 2,5-diketo-D-gluconic acid, alcohol, and ascorbic acid intermediates.

49. (New): The method according to Claim 48, wherein the starch substrate is corn or wheat.

50. (New): The method according to Claim 48, wherein said intermediate-converting enzyme is secreted by a microorganism in contact with the produced glucose.

51. (New): The method according to Claim 48, wherein the granular starch hydrolyzing enzyme is derived from a strain of *Rhizopus* or *Humicola*.

52. (New): The method according to claim 48, further comprising contacting the granular starch substrate and granular starch hydrolyzing enzyme with an alpha amylase to produce the glucose.